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General and complete disarmament

Effects of the use of armaments and ammunitions containing depleted uranium

Report of the Secretary-General

Summary

The present report contains views of Member States and relevant international organizations on the effects of the use of armaments and ammunitions containing depleted uranium. The Secretary-General has, to date, received nine reports from Governments, in addition to responses from the International Atomic Energy Agency and the United Nations Environment Programme.

* A/71/50.

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I. Introduction

1. The General Assembly, in paragraphs 2 and 8 of its resolution 69/57, invited Member States and relevant international organizations, particularly those that had not yet done so, to communicate to the Secretary-General their views on the effects of the use of armaments and ammunitions containing depleted uranium, and requested the Secretary-General to submit an updated report on the subject to the General Assembly at its seventy-first session.

2. On 8 February 2016, a note verbale was sent to Member States requesting them to submit their reports by 29 April 2016. The Office for Disarmament Affairs also submitted similar requests to the International Atomic Energy Agency (IAEA), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO).

3. To date, the Secretary-General has received nine replies from Governments, in addition to responses from IAEA and UNEP. The replies received are reproduced in sections II and III below. Additional replies received from Member States will be issued as an addendum to the present report.

II. Replies received from Governments

Cuba

[Original: Spanish]
[26 May 2016]

The international community reiterated its genuine concern regarding the effects of the use of armaments and ammunitions containing depleted uranium on human health and the environment in resolution 69/57.

Cuba attaches great importance to raising the awareness of the international community, in particular possessors of armaments and ammunitions containing depleted uranium, and the people of the affected countries, regarding the harmful effects of the use of such armaments and ammunitions.

Data provided to the Secretary-General by countries directly affected by radioactive residues as a result of armed conflicts clearly show that the use of depleted uranium can seriously harm human, plant and animal life and the environment in general, and that the radioactive contamination resulting from its use poses a long-term threat.

Research and studies carried out among the affected population living in areas near combat zones where depleted uranium has been used, and among the troops involved in military actions in such areas, show that the contamination caused by depleted uranium poisons the environment for thousands of years and leads to an increase in the rate of cancer and other serious diseases in the population, in addition to congenital abnormalities. They have shown that depleted uranium is more toxic when it turns into dust, which can be ingested or inhaled. In that form, wind and rain easily transport it and enormously extend contaminated areas.

In the addendum to the report on the issue, submitted by the Secretary-General to the General Assembly at its sixty-fifth session (A/65/129/Add.1), the United

Nations Environment Programme (UNEP) emphasized that "major scientific uncertainties persisted regarding the long-term environmental impacts of depleted uranium, particularly with respect to long-term groundwater contamination. Because of these scientific uncertainties, UNEP called for a precautionary approach to the use of depleted uranium, and recommended that action be taken to clean up and decontaminate the polluted sites. It also called for awareness-raising among local populations and future monitoring".

Cuba reiterates its call for States to comply with the UNEP request by taking a precautionary approach to the use of armaments and ammunitions containing depleted uranium until more light has been shed on the scientific uncertainties surrounding its effects.

We would also emphasize the importance of implementing the recommendations of the International Atomic Energy Agency (IAEA), the World Health Organization (WHO) and UNEP to mitigate the confirmed and potential hazards to human beings and the environment from contamination resulting from the use of depleted uranium.

The detection of depleted-uranium residues dispersed in the environment in specific areas where armaments and ammunitions containing that material have been used, and where soils, vegetables, water and surfaces have been contaminated, confirms the need for further investigation of the consequences of the use of such armaments and ammunitions.

Until further research into the effects of depleted uranium yields results, the General Assembly should continue to request Member States that have used armaments and ammunitions containing depleted uranium to provide to the competent authorities of the countries affected, as a matter of urgency, comprehensive and detailed information about the location of the areas of use and the amounts used, with the objective of facilitating the assessment, administration and clearance of the contaminated areas.

Cuba also urges Member States in a position to do so to provide assistance to States affected by the use of arms and ammunitions containing depleted uranium, in particular in identifying and managing contaminated sites and material. They should also provide technical assistance to the affected communities and States and adequate medical care in regions and to people exposed to radiation from such armaments.

Cuba is closely following the latest scientific information regarding the effects on humans of internal exposure from inhalation or ingestion of uranium, to be submitted by the United Nations Scientific Committee on the Effects of Atomic Radiation. The review should include all effects of uranium on human health.

It is contradictory that, while there are legally binding standards that regulate the use of nuclear material, including depleted uranium, for peaceful purposes, there is no limit on the use of depleted uranium in the military sector, especially in cases where this material is used for offensive purposes to strengthen projectiles, bombs and missiles.

In this regard, Cuba reiterates the importance it attaches to the principles of international law, especially the prohibition of the use, in armed conflict, of weapons, projectiles and materials and methods of warfare of a nature to cause

superfluous injury or unnecessary suffering. The use of methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment, is prohibited.

Cuba advocates compliance by all States with article 51, concerning protection of the civilian population, of the Protocol additional to the Geneva Conventions.

Armaments and ammunitions containing depleted uranium constitute a threat to life and to the environment. Further research into their effects is necessary.

El Salvador

[Original: Spanish]
[27 April 2016]

In compliance with our obligations to the United Nations, I have the honour to inform you that, with regard to resolution 69/57, entitled "Effects of the use of armaments and ammunitions containing depleted uranium", the armed forces of El Salvador possess no such arms and ammunitions. As a Member State, however, El Salvador supports any measures taken by the United Nations to limit the use of such armaments and their effects on human beings.

Guatemala

[Original: Spanish]
[2 May 2016]

Guatemala has the honour to inform you that, according to the Directorate of the Army Ammunition Factory, the Factory has never produced ammunition containing depleted uranium.

Japan

[Original: English]
[28 April 2016]

1. In accordance with paragraphs 2 and 8 of resolution 69/57, entitled "Effects of the use of armaments and ammunitions containing depleted uranium", adopted by the General Assembly on 2 December 2014, Japan submits its views to the Secretary-General on the effects of the use of armaments and ammunitions containing depleted uranium.

2. Japan has neither owned nor used armaments and ammunitions containing depleted uranium. Japan recognizes that, despite the studies conducted by relevant international organizations on the effects of the use of armaments and ammunitions containing depleted uranium on human health and the environment, at present no internationally definitive conclusion has been drawn. Japan will continue to follow carefully the developments of the studies conducted by the relevant international organizations.

3. Japan continues to call upon all relevant international organizations to conduct successive on-site studies and further information-gathering, including the latest scientific findings, with due attention to the opinions and activities of the interested

non-governmental organizations in this field, and to provide their views on the effects that the use of depleted uranium munitions may/can cause on the human body as well as the environment.

4. In this connection, Japan intends to continue to engage in dialogue, where appropriate, with civil society on this matter.

Lebanon

[Original: Arabic]
[20 April 2016]

The Ministry of National Defence wishes to transmit the following information:

To date, after searches carried out by the Engineering Regiment of the Lebanese Army and the Lebanese Atomic Energy Commission, no trace of the use of weapons or ammunition containing depleted uranium has been found on Lebanese territory. Those two bodies are responsible for investigating the issue from a scientific and legal perspective.

In cooperation with the Engineering Regiment, the Lebanese Atomic Energy Commission under the National Council for Scientific Research has conducted laboratory tests on samples collected on various dates at suspicious locations. No trace of the use of depleted uranium has been found.

Mexico

[Original: Spanish]
[25 April 2016]

Mexico is a peace-loving country fully committed to preventing the humanitarian effects of indiscriminate weapons; to general and complete disarmament; to the unrestricted application of international humanitarian law; and to the building of a more secure and peaceful world, based not on weapons but on international law, cooperation and solidarity among nations.

As a responsible global actor, Mexico is committed to enhancing all aspects of nuclear safety. It therefore complies with international measures to ensure that nuclear material in its territory is safe, in accordance with IAEA recommendations.

The National Nuclear Safety and Safeguards Commission, the body responsible in Mexico for regulating, strictly controlling and authorizing exports and imports of depleted uranium, which is used solely for peaceful purposes, has no record of the use of depleted uranium in armaments or ammunitions in Mexico.

The Commission is not aware of any research in Mexico on the effects of the use of armaments and ammunitions containing depleted uranium.

Netherlands

[Original: English]
[2 May 2016]

The Netherlands voted in favour of General Assembly resolution 69/57, in which the Assembly requested the Secretary-General to seek the views of Member States and relevant international organizations on the effects of the use of armaments and ammunitions containing depleted uranium.

The Netherlands recognizes the need for additional research on the effects of the use of armaments and ammunitions containing depleted uranium and appreciates that this issue is being discussed in the forum of the United Nations. However, the resolution's reference to the "potential" harmful effects of the use of depleted uranium munitions on human health and the environment cannot so far be substantiated by scientific studies conducted by relevant international organizations, such as WHO.

The Dutch armed forces do not use munitions containing depleted uranium. In the context of multinational missions, however, it is not impossible that Dutch service personnel may operate in areas in which munitions containing depleted uranium are being or have been used by allies. The health and well-being of Dutch soldiers deployed on international missions is under the continuous scrutiny of the Government of the Netherlands. Exposure to hazardous materials must be avoided to the greatest possible extent.

Portugal

[Original: English]
[15 April 2016]

The effects of depleted uranium have been studied by several international organizations and States. Several technical and scientific questions have been raised regarding the use of depleted uranium ammunitions and its effect on the environment and human beings.

After the Gulf War, WHO referred to an increase of cases of cancer and genetic deformations in that region, allegedly due to the use of this kind of munitions. Later tests performed in Iraq (in Bagdad) revealed, however, a level of radioactivity in the atmosphere that was not significant.

In March 2003, UNEP presented a report produced as a result of an impact study on the use of depleted uranium during the bombings conducted by the North Atlantic Treaty Organization (NATO) in Bosnia and Herzegovina. The study was focused on the possible side effects of depleted uranium on the civilian population and on the military personnel integrated in international forces, and concluded that the risks associated with an eventual exposure to depleted uranium were minimum.

The theory of contamination was defended by Belgrade, after the NATO intervention in the Balkans and as a result of the reports made in the Milosevic era, which mentioned levels of contamination arguably above the allowed limits. The Federal Republic of Yugoslavia brought the Alliance countries (Portugal included) to the International Court in the Hague.

The Portuguese Armed Forces have never used depleted uranium ammunitions, nor do they have this type of ammunition in their arsenals.

Uruguay

[Original: Spanish]
[27 April 2016]

Until the end of the 1990s, the Uruguayan army used 105 mm armour-piercing fin-stabilized discarding-sabot tracer ammunition, whose penetrator contained depleted uranium; no incident or negative effect on people, animals or the environment has been reported.

Uruguay currently has no ammunition containing depleted uranium.

III. Replies received from agencies and organs of the United Nations system

International Atomic Energy Agency

[Original: English]
[2 June 2016]

IAEA reported to the Secretary-General of the United Nations in 2008, 2010, 2012 and 2014 on the studies relating to the effects on people and the environment of the use of armaments and ammunitions containing depleted uranium. These assessments were carried out by IAEA in cooperation with UNEP and WHO, following requests received from Member States. The territories involved were those affected by conflicts where ammunition containing depleted uranium was used and residues from such ammunition remain dispersed in the environment, i.e., in Bosnia and Herzegovina, Serbia, Montenegro, Kuwait and Iraq.

Those residues could be found in the form of dispersible material or ammunition fragments. The IAEA assessments dealt exclusively with civilian inhabitants after the conflicts were concluded. The IAEA reports were included in General Assembly reports A/63/170, A/65/129, A/67/177 and A/69/151.

The assessments were based on in-situ environmental sampling campaigns, followed by laboratory analysis of the environmental samples and radiological assessments based on defined radiation exposure scenarios considering the possible public activities in the affected regions (e.g. occupation of contaminated land, uses of the land, water consumption, activities by the population in areas where ammunition fragments can be found). For the cases of Kuwait and Iraq, IAEA produced the publications *Radiological Conditions in Areas of Kuwait with Residues of Depleted Uranium* (2003)[1] and *Radiological Conditions in Selected Areas of Southern Iraq with Residues of Depleted Uranium* (2010).[1]

IAEA has not been involved in any additional assessments after those resulting in the 2010 publication related to the situation in southern Iraq. This is due to the absence of requests from Member States.

[1] Available from www-pub.iaea.org/MTCD/publications.

The general conclusion outlined in those publications and in other studies in which IAEA participated (for instance those related to post-conflict situations in the Balkan region) is that the existence of post-conflict depleted uranium residues dispersed in the environment, when observed as confined contamination of soils, vegetables, water and surfaces, does not pose a radiological hazard to the local population. The estimated annual exposures that could arise in the regions where dispersed residues exist would be of the order of a few microsieverts, i.e., well below the annual dose received by the population worldwide due to naturally occurring sources of radiation, and far below the reference level recommended by IAEA as a radiological criterion for considering the necessity for remedial actions.

However, all the aforementioned studies stressed that the presence of large fragments of, or complete, depleted uranium ammunition could result in exposures of radiological significance to individuals who are in direct contact with those radioactive materials, for example, if they are collected as souvenirs or when military vehicles which have been hit by such ammunition are reprocessed for scrap metal. The advice in such cases was to identify and restrict access to the locations where such fragments of or complete munitions could be found, which normally are the areas where affected war equipment remains after a conflict has ended, and subsequently, for the national authorities to conduct survey campaigns and for the depleted uranium ammunition residues to be managed as low level radioactive waste.

IAEA provided the results of the studies, including recommendations, to the national authorities in the affected regions who have the competence to carry out further surveys and monitoring activities, where applicable. IAEA stated that the studies dealt exclusively with civilian inhabitants in post-conflict environments and that the results and conclusions were valid at the time that the assessments were carried out.

In summary, in the studies in which IAEA was involved, the resulting radiological risk to the public and the environment was not significant in situations where depleted uranium is observed in the form of localized contamination of the environment by small particles resulting from the impacts. However, in the situations where fragments of, or complete, depleted uranium ammunitions were found, there is a potential risk of radiation effects for individuals who come into direct contact with such fragments or ammunitions. This risk can be mitigated by the national authorities' conducting such simple countermeasures as the collection, storage and disposal of such fragments.

Nevertheless, it was also observed that, in a post-conflict environment, the presence of depleted uranium residues further increases the anxiety of local populations, and the results of the radiological assessments conducted by IAEA in cooperation with UNEP and WHO provide the basis for public reassurance in all of the countries concerned.

United Nations Environment Programme

[Original: English]
[8 June 2016]

The United Nations Scientific Committee on the Effects of Atomic Radiation, as part of its current programme of work, has conducted a comprehensive review of

the latest information in the scientific literature on the effects on humans of internal exposure due to inhalation and/or ingestion of uranium.

This review covers natural uranium, enriched uranium and depleted uranium and is primarily limited to the radiological effects, though clearly the chemical toxicity effects are important for human health (and especially so with respect to depleted uranium).

In this regard, the Committee has evaluated several published studies on the health effects among veterans who may have been exposed to depleted uranium. No clinically significant pathology related to radiation exposure to depleted uranium was found. The complete review is expected to be approved for publication by the Scientific Committee at its sixty-third annual session (27 June-1 July 2016) and, it is envisaged, will be ready for publication before the end of 2016.